



Flooded Islands Feasibility Study

Salinity Control Gate Concept Study Cost Analysis Results

Presented By:

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Concept Cost Alternatives

- Concept Costs For 3 Alternatives
 - West False River Gate
 - East Levee and Two Gates
 - Cox Alternative

Cost Alternative Locations



MOFFATT & NICHOL

Flooded Islands – Feasibility Study

Major Cost Elements

- West False River Gate (828 LF)
 - Pivot Gate Structure (1 ea.)
 - Pendant Barrier Structure (26 ea.)
 - Sheet Pile Wall at marginal closure areas (160 lf)
 - Site Preparation (dredging, rock placement)
 - Control Structures (building, security, telemetry, navigation aids)

Major Cost Elements

- East Levee and Two Gates
 - False River Gate at Old River (527 LF)
 - Pivot Gate Structure (1 ea.)
 - Pendant Barrier Structure (11 ea.)
 - Sheet Pile Wall at marginal closure areas (160 lf)
 - Site Preparation (dredging, rock placement)
 - Control Structures
 - Close Old River Levee (11,700 lf)
 - Concrete Sheet Pile with sand fill setback levee

Major Cost Elements

- East Levee and Two Gates (cont'd)
 - Sand Mound Slough Gate at Old River (626 lf)
 - Pivot Gate Structure (1 ea.)
 - Pendant Barrier Structure (16 ea.)
 - Sheet Pile Wall at marginal closure areas (160 lf)
 - Site Preparation (dredging, rock placement)
 - Control Structures (building, security, telemetry, navigation aids)

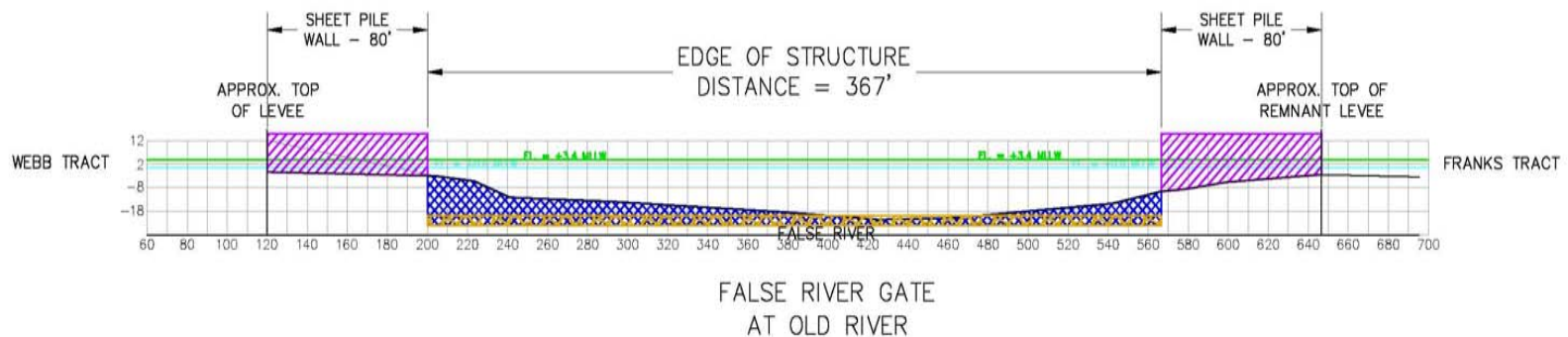
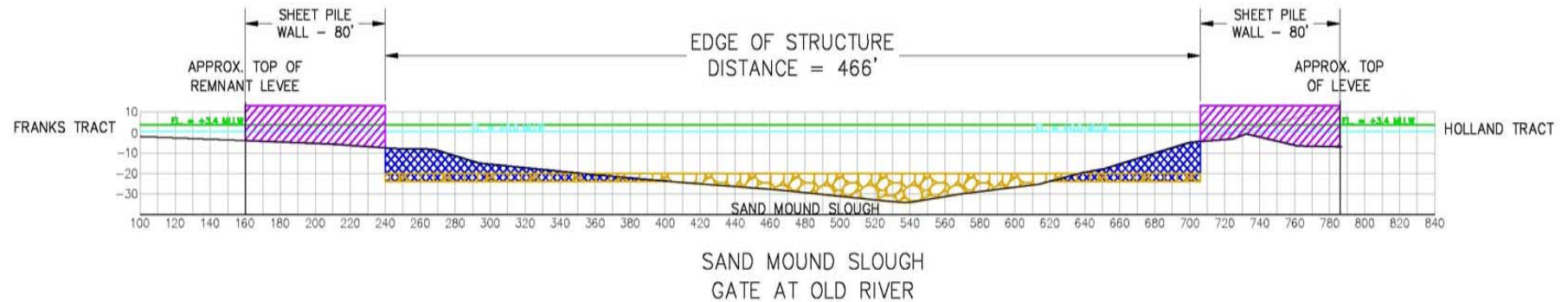
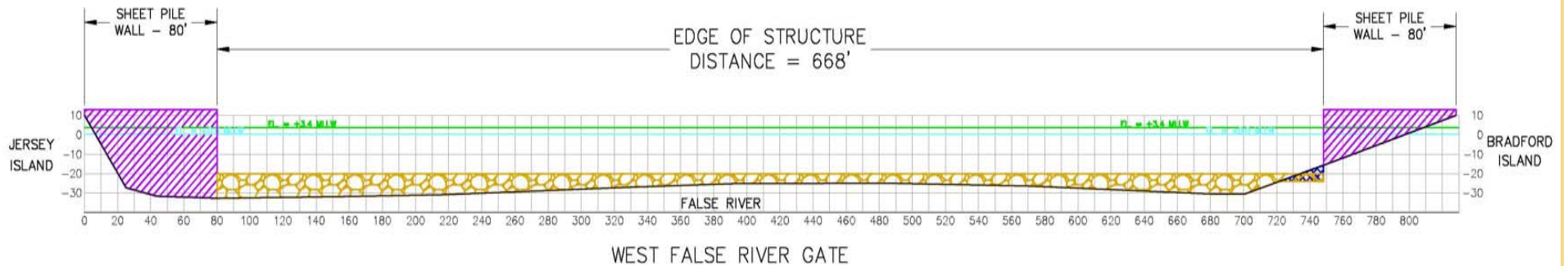
Major Cost Elements

- Cox Alternative
 - Old River Barrier (707 lf)
 - Pivot Gate Structure (1 ea.)
 - Pendant Barrier Structure (20 ea.)
 - Sheet Pile Wall at marginal closure areas (160 lf)
 - Site Preparation (dredging, rock placement)
 - Control Structures (building, security, telemetry, navigation aids)

Major Cost Elements

- Cox Alternative (cont'd)
 - Holland Cut Barrier (555 lf)
 - Pivot Gate Structure (1 ea.)
 - Pendant Barrier Structure (7 ea.)
 - Sheet Pile Wall at marginal closure areas (270 lf)
 - Site Preparation (dredging, rock placement)
 - Control Structures (building, security, telemetry, navigation aids)

Site Preparation Cross Sections



Cost Assumptions

- All cross sections dredged to El. -24
- Crushed rock is placed to El. -20 to prevent scour under the structures
- Costs are based on the fabrication and installation of one structure
- Costs include Contractor Markups, Contingency and Engineering/Legal/Administration costs
- Costs do not include the following:
 - Removal and/or relocation costs
 - Maintenance costs
 - Staffing costs
 - Escalation costs

Alternative Cost Comparison

WEST FALSE RIVER GATE

Description	Quantity	Unit	Unit Price	Sub-Total	Contingency @ 40%	Engineering / Legal / Administration @ 25%	Total Cost
WEST FALSE RIVER GATE							
Sheet Pile Wall	160	LF	\$3,328	\$532,000	\$213,000	\$186,000	\$931,000
Pivot Gate Structure	1	EA	\$1,986,331	\$1,986,000	\$794,000	\$695,000	\$3,475,000
Pendant Barrier Structure	26	EA	\$342,686	\$8,910,000	\$3,564,000	\$3,119,000	\$15,593,000
Control Structures	1	LS	\$558,002	\$558,000	\$223,000	\$195,000	\$976,000
TOTAL ALTERNATIVE COST				\$11,986,000	\$4,794,000	\$4,195,000	\$20,975,000

Alternative Cost Comparison

EAST LEVEE AND TWO GATES

Description	Quantity	Unit	Unit Price	Sub-Total	Contingency @ 40%	Engineering / Legal / Administration @ 25%	Total Cost
EAST LEVEE AND TWO GATES							
FALSE RIVER GATE AT OLD RIVER							
Sheet Pile Wall	160	LF	\$3,328	\$532,000	\$213,000	\$186,000	\$931,000
Pivot Gate Structure	1	EA	\$2,017,751	\$2,018,000	\$807,000	\$706,000	\$3,531,000
Pendant Barrier Structure	11	EA	\$348,456	\$3,833,000	\$1,533,000	\$1,342,000	\$6,708,000
Control Structures	1	LS	\$558,002	\$558,000	\$223,000	\$195,000	\$976,000
SUBTOTAL				\$6,941,000	\$2,776,000	\$2,429,000	\$12,146,000
CLOSE EAST LEVEE ON FRANKS TRACT							
Set-Back Levee Sta. 238+00 to 268+69	2,020	LF	\$1,255	\$2,535,000	\$1,014,000	\$887,000	\$4,436,000
Set-Back Levee Sta. 268+69 to 295+90	2,948	LF	\$1,255	\$3,700,000	\$1,480,000	\$1,295,000	\$6,475,000
Set-Back Levee Sta. 295+90 to 325+42	2,922	LF	\$1,327	\$3,877,000	\$1,551,000	\$1,357,000	\$6,785,000
Set-Back Levee Sta. 325+42 to 355+00	2,777	LF	\$1,255	\$3,485,000	\$1,394,000	\$1,220,000	\$6,099,000
SUBTOTAL				\$13,597,000	\$5,439,000	\$4,759,000	\$23,795,000
SAND MOUND SLOUGH GATE AT OLD RIVER							
Sheet Pile Wall	160	LF	\$3,328	\$532,000	\$213,000	\$186,000	\$931,000
Pivot Gate Structure	1	EA	\$1,974,888	\$1,975,000	\$790,000	\$691,000	\$3,456,000
Pendant Barrier Structure	16	EA	\$345,666	\$5,531,000	\$2,212,000	\$1,936,000	\$9,679,000
Control Structures	1	LS	\$558,002	\$558,000	\$223,000	\$195,000	\$976,000
SUBTOTAL				\$8,596,000	\$3,438,000	\$3,008,000	\$15,042,000
TOTAL ALTERNATIVE COST				\$29,134,000	\$11,653,000	\$10,196,000	\$50,983,000

Alternative Cost Comparison

COX

Description	Quantity	Unit	Unit Price	Sub-Total	Contingency @ 40%	Engineering / Legal / Administration @ 25%	Total Cost
COX ALTERNATIVE							
OLD RIVER BARRIER							
Sheet Pile Wall	160	LF	\$3,328	\$532,000	\$213,000	\$186,000	\$931,000
Pivot Gate Structure	1	EA	\$1,937,007	\$1,937,000	\$775,000	\$678,000	\$3,390,000
Pendant Barrier Structure	20	EA	\$340,337	\$6,807,000	\$2,723,000	\$2,383,000	\$11,913,000
Control Structures	1	LS	\$558,002	\$558,000	\$223,000	\$195,000	\$976,000
SUBTOTAL				\$9,834,000	\$3,934,000	\$3,442,000	\$17,210,000
HOLLAND CUT BARRIER							
Sheet Pile Wall	270	LF	\$3,328	\$899,000	\$360,000	\$315,000	\$1,574,000
Pivot Gate Structure	1	EA	\$1,984,148	\$1,984,000	\$794,000	\$695,000	\$3,473,000
Pendant Barrier Structure	7	EA	\$343,801	\$2,407,000	\$963,000	\$843,000	\$4,213,000
Control Structures	1	LS	\$558,002	\$558,000	\$223,000	\$195,000	\$976,000
SUBTOTAL				\$5,848,000	\$2,340,000	\$2,048,000	\$10,236,000
TOTAL ALTERNATIVE COST				\$15,682,000	\$6,274,000	\$5,490,000	\$27,446,000

Alternative Cost Comparison

SUMMARY

